APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/648,271	08/25/2000	Petro Estakhri	LEXA-00301	5878

28960	7590	02/11/2004

HAVERSTOCK & OWENS LLP
162 NORTH WOLFE ROAD
SUNNYVALE, CA 94086

EXAMINER
TRAN, DENISE

ART UNIT	PAPER NUMBER
2186	

DATE MAILED: 02/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 January 2004</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-66</u> is/are pending in the application.

　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>1-13 and 27-49</u> is/are allowed.

6)☒ Claim(s) <u>14,19,20,25,26,50-54 and 60-66</u> is/are rejected.

7)☒ Claim(s) <u>15-18,21-24 and 55-59</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 August 2000</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　a)☐ All b)☐ Some * c)☐ None of:

　　1.☐ Certified copies of the priority documents have been received.

　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
　　　application from the International Bureau (PCT Rule 17.2(a)).

　* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

　a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4-13</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

1.   Claims 1-66 are presented for examination.

2.   Figures 1, 3, and 5-6 should be designated by a legend such as --Prior Art--

because only that which is old is illustrated. See MPEP § 608.02(g). A proposed

drawing correction or corrected drawings are required in reply to the Office action to

avoid abandonment of the application. The objection to the drawings will not be held in

abeyance.

3.   Applicant is reminded of the proper language and format for an abstract of the
disclosure.

The abstract should be in narrative form and generally limited to a single
paragraph on a separate sheet within the range of 50 to 150 words. It is important that
the abstract not exceed 150 words in length since the space provided for the abstract
on the computer tape used by the printer is limited. The form and legal phraseology
often used in patent claims, such as "means" and "said," should be avoided. The
abstract should describe the disclosure sufficiently to assist readers in deciding whether
there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information
given in the title. It should avoid using phrases which can be implied, such as, "The
disclosure concerns," "The disclosure defined by this invention," "The disclosure
describes," etc.

4.   The abstract of the disclosure is objected to because the abstract should be in

narrative form and generally limited to a single paragraph on a separate sheet within the

range of **50 to 150 words**. Correction is required. See MPEP § 608.01(b).

5.   The specification is objected to as failing to provide proper antecedent basis for

the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

of the following is required: The current specification, e.g., page 13, lines 25-30 fails to

provide proper antecedent basis for the claimed feature claim 50, lines 6-7, " . . .

Dedicated Overhead Blocks for storing Overhead Data including a first Dedicated Data

Block and a second Dedicated Data Block".

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

7.   Claims 14, 19-20, 25, 50-54, 60-63 and 65 are rejected under 35 U.S.C. 102(e)

as being anticipated by Iida et al., U.S. Patent No. 6,625,713 B2 (hereinafter Iida).

As per claim 50, Iida teaches a flash memory device for storing user data

comprising a plurality of separate, independently addressable, independently

programmable and independently erasable non-volatile physical memory blocks

distinguishably defined by a plurality of physical block addresses (i.e., segments or

blocks, e.g., cols 5-6, figs. 7, 11 and 14) including:

a plurality of dedicated data blocks for storing user data (i.e., segments or blocks; e.g., figs. 7A and 11A segments or fig. 7A, blocks n-1 and n; col. 5, line 55 to col. 6, line 20); and

a plurality of dedicated overhead blocks for storing overhead data including a first dedicated data block and a second dedicated data block (i.e., segments or blocks; e.g., figs. 7A and 11A segments or fig. 7A, blocks 0-3; fig. 7F; and col. 5, line 55 to col. 6, line 20).

As per claim 14, Iida teaches a method of data storage within a flash memory comprising the steps:

Mapping a non volatile memory medium within the flash memory system into a plurality of independently addressable, independently programmable and independently erasable blocks (i.e., segments or blocks, e.g., cols 5-6, figs. 7, 11 and 14) including a plurality of dedicated data blocks (i.e., segments or blocks; e.g., figs. 7A and 11A segments or fig. 7A, blocks n-1 and n; col. 5, line 55 to col. 6, line 20) and a plurality of dedicated overhead blocks comprising a first dedicated overhead block and a second dedicated overhead block (i.e., segments or blocks; e.g., figs. 7A and 11A segments or fig. 7A, blocks 0-3; fig. 7F; and col. 5, line 55 to col. 6, line 20; fig. 14C segments or block 123);

Mapping each of the plurality of dedicated overhead blocks into a plurality of consecutive address overhead segments (e.g., figs. 14b-c, pages 0-15) wherein the plurality of segments within each dedicated overhead block are address according to an

identical set of distinct segment addresses (e.g., figs. 14b-c, pages 0-15), each segment

comprising: physical address register for storing a physical address for locating

corresponding user data (e.g., fig. 14 D, 003; col. 12, lines 16-18); and a flag field (e.g.,

figs.14 B-C, control flag); and

correlating first group of virtual logical block addresses including a first VLBA to

the first dedicated overhead block (e.g., figs 14, redundant portion, logical address).

As per claims 51-54, Iida teaches, wherein each dedicated overhead block is

identically comprised of a plurality of separately addressable overhead pages, each

block following an identical sequence of page addresses (i.e., blocks or pages; e.g., fig.

7A, blocks 1-3; or fig. 7D, pages 0-m); wherein each overhead page is comprised of a

plurality of independently addressable and independently programmable segments (i.e.,

pages; e.g., fig. 7D, pages 0-m); wherein the plurality of independent overhead

segments are used for storing overhead data, each overhead segment supporting one

virtual logical block of user data (e.g., figs. 7E-F, redundant portion, logical address),

each overhead segment comprising: physical address register for storing a physical

address for locating corresponding user data (e.g., fig. 14 D, 003; col. 12, lines 16-18);

and a flag field (e.g., figs.14 B-C, control flag); and Iida shows wherein a first group of

virtual logical block addresses including a first VLBA are assigned to the first dedicated

overhead block, such that overhead data generated in support of the first VLBA will be

stored in an overhead segment within the first dedicated overhead block (e.g., figs 14,

redundant portion, logical address).

As per claims 19-20, 25, 60-63 and 65, Iida shows a controller for regulating and

controlling the operation of the flash memory (e.g., fig. 4, el. 109); a volatile ram space

manager comprising a plurality of correlation fields for correlating virtual addresses and

physical addresses or storing a logical address within a non-volatile correlation register

within the flash memory system (e.g., fig. 4, el. 111; and col. 13, lines 15-25 and col. 20,

lines 30-35); the space manager comprises a flag register comprising a plurality of

status flags (e.g., fig. 7F, status flags; fig. 14D, control table flags); a means for loading

data from a non volatile memory area into a correlation register of the RAM space

manager on start up or power up (e.g., col. 20, lines 30-35); means for generating error

correction data corresponding to user (e.g., col. 7, lines 1-30

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

9.   Claim 64 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iida et

al., U.S. Patent No. 6,625,713 B2 (hereinafter Iida) as applied to claim 50 above, and

further in view of applicant's admitted prior art, the current specification pages 2-12 and

figs. 1-6 (hereinafter AAPA).

As per claim 64, Iida shows a means for loading data from a nonvolatile memory

area into the space manager on start up (e.g., col. 20, lines 30-35). Iida does not

explicitly shows the use of a reset command. AAPA shows the use of a reset command

(e.g., page 11, lines 20-26. It would have been obvious to one of ordinary skill in the art

at the time the invention was made to apply the teaching of AAPA into the system of

Iida because it would allow the system to recover data from the system failure.

10.   Claims 26 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Iida et al., U.S. Patent No. 6,625,713 B2 (hereinafter Iida) as applied to claims 50

or 14 above, and further in view of Tanaka, U.S. Patent No. 6,446177 B1 (hereinafter

Tanaka).

As per claims 26 and 66, Iida shows a dedicated data block to function as a

dedicated overhead block and an existing dedicated overhead block (e.g., col. 11, line

65- col. 12, line 15). Iida does not explicitly shows means for re-designating a block in

the even of failure of an existing block. Tanaka shows means for re-designating a block

in the even of failure of an existing block (e.g., page 28, lines 40-50). It would have

been obvious to one of ordinary skill in the art at the time the invention was made to

apply the teaching of Tanaka into the system of Iida because it would allow the system

to recover data from the defective block.

11.   Claims 1-13 and 27-49 are allowed.

12.   Claims 15-18, 21-24, and 55-59 are objected to as being dependent upon a
rejected base claim, but would be allowable if rewritten in independent form including all
of the limitations of the base claim and any intervening claims.

13.   The prior art made of record and not relied upon is considered pertinent to
applicant's disclosure.

a)   Kimura et al. (6282624) show an address conversion table stored in a
nonvolatile memory for improved access at power up.

14.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Denise Tran whose telephone number is (703) 305-
9823. The examiner can normally be reached on Monday, Thursday and an alternated
Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Matt Kim can be reached on (703) 305-3821. The fax phone numbers for

the organization where this application or proceeding is assigned are (703) 872-9306 for

central Official communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

3900.

D.T.
Febuary, 6, 2004